

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/048276 A2

(51) International Patent Classification⁷: **H01F 1/34**,
C04B 35/26, G03G 9/00

Kanto Denka Kogyo Co., Ltd., 425, Kanai, Shibukawa-shi,
Gunma 3770027 (JP).

(21) International Application Number:
PCT/JP2004/016811

(74) Agent: **OKIMOTO, Kazuaki**; YUASA AND HARA,
Section 206, New Ohtemachi Bldg., 2-1, Ohtemachi
2-chome, Chiyoda-ku, Tokyo 1000004 (JP).

(22) International Filing Date:
5 November 2004 (05.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-382668 12 November 2003 (12.11.2003) JP
2004-264875 13 September 2004 (13.09.2004) JP

(71) Applicant (for all designated States except US): **KANTO
DENKA KOGYO CO., LTD.** [JP/JP]; 2-1, Marunouchi
1-chome, Chiyoda-ku, Tokyo 1000005 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **IINUMA, Hidehiko**
[JP/JP]; c/o Matarials for Recording Media Lab., Kanto
Denka Kogyo Co., Ltd., 425, Kanai, Shibukawa-shi,
Gunma 3770027 (JP). **HAYASHI, Masatomo** [JP/JP]; c/o
Matarials for Recording Media Lab., Kanto Denka Kogyo
Co., Ltd., 425, Kanai, Shibukawa-shi, Gunma 3770027
(JP). **MATSUURA, Natsuki** [JP/JP]; c/o Matarials for
Recording Media Lab., Kanto Denka Kogyo Co., Ltd., 425,
Kanai, Shibukawa-shi, Gunma 3770027 (JP). **OGUMA,**
Yukinari [JP/JP]; c/o Matarials for Recording Media Lab.,

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG,
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: AN MG-BASED FERRITE, AN ELECTROPHOTOGRAPHIC DEVELOPMENT CARRIER CONTAINING THE
FERRITE, AND DEVELOPER CONTAINING THE CARRIER

(57) Abstract: This invention provides an Mg-based ferrite having a high dielectric breakdown voltage and a saturation magnetiza-
tion suitable for electrophotographic development, a carrier containing the ferrite, and an electrophotographic developer containing
the carrier. The Mg-based ferrite material of this invention comprises Li, Na, K, Rb, Cs, Ca, Sr, Ba, Y, La, Ti, Zr, Hf, V, Nb, Ta, Al,
Ga, Si, Ge, P, Sb, Bi or a combination thereof. The Mg-based ferrite material has a saturation magnetization of 30 to 80 emu/g, and
a dielectric breakdown voltage of 1.5 to 5.0 kV. The Mg-based ferrite material can realize high image quality, and be in compliance
with environmental regulations.

WO 2005/048276 A2